

Comparisons of Job Characteristics

Focus Occupation: **Machinists (51-4041)**

Associated Occupation: **Millwrights (49-9044)**

[Compare Knowledge](#)

[Compare Skills](#)

[Compare Abilities](#)

[Compare Detailed Work Activities](#)

[Compare Tools and Technologies](#)

<<	Focus occupation element is much lower
<	Focus occupation element is lower
0	Focus occupation element is at a similar level
>	Focus occupation element is at a higher level
>>	Focus occupation element is at a much higher level

Knowledge

Similarity of Focus Occupation to Associated Occupation: 89

Focus Occupation: Machinists (51-4041)

Associated Occupation: Millwrights (49-9044)

Associated Occupation's Key Knowledge Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating		Evaluation of Focus Occupation
Mechanical	6.8	22.9	18.0	<<	Extensive education and/or training may be required
Mathematics	9.2	15.8	14.2	<	Expanded education and/or training may be required
Building and Construction	4.0	11.7	3.4	<<	Extensive education and/or training may be required
Design	5.2	11.0	11.2	0	Current knowledge level may be sufficient
Physics	4.3	9.7	3.6	<<	Extensive education and/or training may be required

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Skills

Similarity of Focus Occupation to Associated Occupation: 57

Focus Occupation: Machinists (51-4041)

Associated Occupation: Millwrights (49-9044)

Associated Occupation's Key Skills Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating		Evaluation of Focus Occupation
Installation	1.7	13.7	6.0	<<	Extensive development of skills in this area may be required
Equipment Maintenance	3.5	11.9	9.3	<	A higher skill level may be required
Operation Monitoring	6.6	11.6	12.0	0	Current skill level may be sufficient
Repairing	3.4	11.1	8.5	<<	Extensive development of skills in this area may be required
Troubleshooting	4.5	11.1	10.2	0	Current skill level may be sufficient
Operation and Control	5.4	10.0	11.1	>	Skill level is likely sufficient
Quality Control Analysis	5.9	9.8	12.6	>>	Skill level is likely more than sufficient

Equipment Selection	3.3	7.6	8.6	>	Skill level is likely sufficient
---------------------	-----	-----	-----	---	----------------------------------

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Abilities		Similarity of Focus Occupation to Associated Occupation: 78			
Focus Occupation: Machinists (51-4041) Associated Occupation: Millwrights (49-9044)					
Associated Occupation's Key Abilities Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating	Evaluation of Focus Occupation	
Control Precision	6.6	12.5	13.3	0	Current ability level may be sufficient
Multilimb Coordination	6.0	12.2	10.7	<	Some improvement in abilities may be required
Finger Dexterity	7.6	12.0	11.6	0	Current ability level may be sufficient
Visualization	7.5	12.0	10.1	<	Some improvement in abilities may be required
Manual Dexterity	6.5	11.9	11.1	0	Current ability level may be sufficient
Extent Flexibility	4.8	11.4	8.3	<<	Extensive improvement in abilities may be required
Trunk Strength	5.7	11.2	7.5	<<	Extensive improvement in abilities may be required
Static Strength	5.0	11.1	7.7	<<	Extensive improvement in abilities may be required
Response Orientation	4.0	9.4	7.7	<	Some improvement in abilities may be required
Gross Body Equilibrium	3.2	8.8	3.3	<<	Extensive improvement in abilities may be required
Speed of Limb Movement	3.2	8.3	6.1	<<	Extensive improvement in abilities may be required
Dynamic Strength	3.5	8.1	5.1	<<	Extensive improvement in abilities may be required
Glare Sensitivity	2.6	6.6	3.3	<<	Extensive improvement in abilities may be required

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Activities that Both Occupations Have in Common		Similarity of Focus Occupation to Associated Occupation: 82	
Focus Occupation: Machinists (51-4041) Associated Occupation: Millwrights (49-9044)			
Work Activities		Exclusivity of Activity	
Fabricate, assemble, or disassemble manufactured products by hand		11	
Install equipment or attachments on machinery or related structures		48	
Lay out machining, welding or precision assembly projects		63	
Maintain or repair industrial or related equipment/machinery		39	

Maintain welding machines or equipment	70
Move or fit heavy objects	8
Program computer numerical controlled machines	89
Read blueprints	10
Read specifications	23
Read technical drawings	7
Set up and operate variety of machine tools	62
Set up computer numerical control machines	69
Understand technical operating, service or repair manuals	6
Use arc welding equipment	62
Use hand or power tools	2
Use knowledge of metric system	39
Use robotics systems technology	78
Weld together metal parts, components, or structures	54

Not all positions in these occupations will necessarily perform all of the listed activities. The exclusivity rating is an indication of how unique the activity is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations engage in that activity.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Tools and Technologies that Both Occupations Have in Common

Similarity of Focus
Occupation to Associated
Occupation: 92

Focus Occupation: Machinists (51-4041)
Associated Occupation: Millwrights (49-9044)

Tools and Technologies	Exclusivity
Bandsaws and accessories	26
Business function specific software	1
Computers	1
Cutting and crimping and punching tools	3
Cutting tools	18
Drafting supplies	9
Face and head protection	7
Forming tools	2
Holding and clamping tools	3
Hydraulic presses	25
Industry specific software	1
Ladders and scaffolding	6
Length and thickness and distance measuring instruments	2
Lifting equipment and accessories	3
Machine tools	7
Machinery for working wood and stone and ceramic and the like	12
Marking tools	11
Measuring and layout tools	3
Mechanical instruments	14
Metal bending and forming machinery	17
Metal working machinery attachments	35
Power tools	2

Prying and bending tools	10
Rough and finishing tools	5
Sealing tools	21
Soldering and brazing and welding machinery and supplies	6
Special tooling fixtures	16
Tool attachments and accessories	12
Viewing and observing instruments and accessories	4
Vision protection and accessories	3
Wrenches and drivers	2

Not all positions in these occupations will necessarily use all of the listed tools and technologies. The exclusivity rating is an indication of how unique the tool or technology is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations use that tool or technology.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.